AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method for the continuous determination of the damage to at least one system ~~(7)~~ for post-treatment of the exhaust gases from an internal combustion engine ~~(2),~~ caused by the lubricating oil, the fuel and/or at least one lubricating oil additive and/or fuel additive used, ~~characterized in that~~wherein:

(i) a determined quantity of at least one radiotracer is used to modify the lubricating oil, the fuel and/or the additive for which the impact on the post-treatment system ~~(7)~~ is to be measured;

(ii) a measurement is taken of the quantity of radiotracer originating from the exhaust gases which has accumulated in the post-treatment system ~~(7)~~, this measurement being taken using a detector ~~(10)~~ which is sensitive to radiation emitted by the radiotracer that has accumulated in the post-treatment system ~~(7)~~ and wherein the detector is placed adjacent to the system to allow a continuous measurement of the emitted radiation while the engine is in use;

(iii) the measurements taken by this detector ~~(10)~~ are transmitted to a programmed computer ~~(11)~~ which can convert these measurements into the degree of damage caused to the post-treatment system by the lubricating oil, the fuel and/or the additive(s).

2. (currently amended): The method as claimed in claim 1, ~~characterized in that~~wherein the lubricating oil, the fuel and/or the additive for which the impact is to be measured, is

modified with a determined quantity of at least one radiotracer comprising Sr, Zn, Ca, S, P and/or Mg.

3. (currently amended): The method as claimed in claim 1, ~~characterized in that~~wherein the lubricating oil, the fuel and/or the additive for which the impact is to be measured, is modified with a determined quantity of at least one radiotracer comprising a short-lived radioactive element, particularly bromine 82, germanium-69 or technetium 99-m.

4. (currently amended): The method as claimed in claim 3, ~~characterized in that~~wherein the technetium 99-m is incorporated in the oil or the fuel in the form of an aqueous solution of sodium pertechnetate $NaTcO_4$.

5. (currently amended): The method as claimed in claim 3, ~~characterized in that~~wherein the germanium-69 is incorporated in the oil or the fuel in the form of tetraalkylgermane.

6. (currently amended): The method as claimed in claim 1 or 2, ~~characterized in that~~wherein the radiotracer is activated by neutrons and/or by a proton beam before incorporation in this oil.

7. (currently amended): The method as claimed in ~~either of~~ claims 1 ~~and~~or 2, characterized in that the continuous determination of the damage to at least one system ~~(7)~~ for post-treatment of exhaust gases of an internal combustion engine~~(2)~~, caused by a lubricating oil additive Adh, is carried out by introducing into the lubricating oil a quantity of activable EAhi

species of identical composition to the additive Adh and substituting for an identical quantify of the additive Adh.

8. (currently amended): The method as claimed in ~~either of~~ claims 1 ~~and~~or 2, ~~characterized in that~~wherein the continuous determination of the damage to at least one system ~~(7)~~ for post-treatment of exhaust gases of an internal combustion engine ~~(2)~~, caused by a lubricating oil additive Adh, is carried out by introducing into the lubricating oil a quantity of activable EAhii species, having no effect on the properties of use of the oil, of which the quantity found and measured in the post-treatment system is correlated with the impact of the additive Adh.

9. (currently amended): The method as claimed in claim 8, ~~characterized in that~~wherein the additive Adh is a detergent containing calcium and ~~in that~~wherein the EAhii species in activated form is strontium-85.

10. (currently amended): The method as claimed in ~~either of~~ claims 1 ~~and~~or 2, ~~characterized in that~~wherein the continuous determination of the damage to at least one system ~~(7)~~ for post-treatment of exhaust gases of an internal combustion engine ~~(2),~~ caused by the fuel, is carried out by introducing into the fuel a quantity of activable EAci species of identical composition to a fuel additive Adc and substituting for an identical quantity of said additive Adc in the fuel.

11. (currently amended): The method as claimed in ~~either of~~ claims 1 ~~and~~or 2, ~~characterized in that~~wherein the continuous determination of the damage to at least one system for post-treatment of exhaust gases of an internal combustion engine ~~(2)~~, caused by the lubricant, is carried out by introducing into the lubricating oil a quantity of an activable EAhi or EAhii species.

12. (currently amended): A device for the continuous determination of the damage to at least one system ~~(7)~~ for the post-treatment of exhaust gases of an internal combustion engine ~~(2)~~, caused by the lubricating oil, the fuel and/or at least one lubricating oil additive and/or fuel additive used, this device comprising means ~~(3)~~ for incorporating a determined quantity of at least one radioactive tracer in the lubricating oil or in the fuel, and, downstream of the engine ~~(2)~~, a system ~~(7)~~ for the post-treatment of the combustion gases originating from the engine, ~~this device being characterized in that it comprises~~comprising:

(i) a detector ~~(10)~~ sensitive to the radiation emitted by the radioactive tracer, installed near the post-treatment system ~~(7)~~ and at some distance therefrom, in order to measure a radiation emitted by the tracer particles that have accumulated in this system and wherein the detector is placed adjacent to the system to allow a continuous measurement of the emitted radiation while the engine is in use;

(ii) functionally linked to the detector ~~(10)~~, a programmed computer ~~(11)~~ which can convert the measurements taken by the detector into the degree of damage caused to the post-treatment system by the lubricating oil, the fuel and/or the additives.

13. (currently amended): The device as claimed in claim 12, ~~characterized in that~~wherein the post-treatment system ~~(7)~~ is selected from the group of oxidation catalyst systems, systems for removing or reducing carbon oxides, and particulate filter systems.

14. (currently amended): The device as claimed in ~~either of~~ claims 12 ~~and~~or 13, ~~characterized in that~~wherein the detector ~~(10)~~ is a probe for detecting ionizing radiation.

15. (currently amended): The device as claimed in ~~any one of~~ claims 12 ~~to 14~~or 13, ~~characterized in that~~wherein it comprises a filter ~~(9)~~ placed on the combustion gas exhaust line, between the post-treatment system ~~(7)~~ and the point at which these gases are released into the atmosphere.